

CLAIMS

We claim:

- [c1] 1. A method in a computing system for projecting future purchasing activity for a selected item, comprising:
- compiling historical browsing data indicating, for each of a plurality of foregoing time periods, a level of item browsing activity performed with respect to the selected item;
- generating from the compiled historical browsing data a first projection of future purchasing activity levels with respect to the selected item;
- compiling historical purchasing data indicating, for each of a plurality of foregoing time periods, a level of item purchasing activity performed with respect to the selected item;
- generating from the compiled historical purchasing data a second projection of future purchasing activity levels with respect to the selected item;
- and
- blending the generated first and second projections of future purchasing activity levels with respect to the selected item to generate a third projection of future purchasing activity levels with respect to the selected item.
- [c2] 2. The method of claim 1, further comprising placing a resupplying order for the selected item based upon the third projection.
- [c3] 3. The method of claim 1 wherein the first, second, and third projections of future purchasing activity levels each specify a level of purchasing activity with respect to the selected item during each of a plurality of target time periods following the foregoing time periods,
- and wherein the blending comprises, for each of the plurality of target time periods:

weighting the level specified by the first projection relative to the level specified by the second projection, and

combining the levels specified by the first and second projections in accordance with their weights,

the method further comprising determining that an external event occurred that is likely to have influenced the level of item purchasing activity performed with respect to the selected item during a selected one of the plurality of target time periods,

and wherein the weighting for the selected target time period downgrades the weight of the level specified by the second projection relative to the level specified by the first projection.

[c4] 4. The method of claim 3 wherein the external event determined to have occurred is an external event that is likely to have limited the availability of the selected item.

[c5] 5. The method of claim 3 wherein the external event determined to have occurred is an external event that is likely to have prevented the purchase of the selected item.

[c6] 6. A computer-readable medium whose contents cause a computing system to project future purchasing activity for a selected item by:

compiling historical browsing data indicating, for each of a plurality of foregoing time periods, a level of item browsing activity performed with respect to the selected item;

generating from the compiled historical browsing data a first projection of future purchasing activity levels with respect to the selected item;

compiling historical purchasing data indicating, for each of a plurality of foregoing time periods, a level of item purchasing activity performed with respect to the selected item;

generating from the compiled historical purchasing data a second projection of future purchasing activity levels with respect to the selected item; and

blending the generated first and second projections of future purchasing activity levels with respect to the selected item to generate a third projection of future purchasing activity levels with respect to the selected item.

[c7] 7. A method in a computing system for projecting future purchasing activity for a selected item being offered for sale by a merchant, comprising:

retrieving data indicating, during each of a plurality of past time periods, an observed level of browsing activity performed by users with respect to the selected item; and

transforming the retrieved data into a projection of future purchasing activity at the merchant for the selected item.

[c8] 8. The method of claim 7 wherein the transforming produces a projection of future purchasing activity specifying an anticipated level of purchasing activity for each of a plurality of future time periods.

[c9] 9. The method of claim 7 wherein the transforming comprises:

using the retrieved data to generate a projection of future browsing activity performed at the merchant with respect to the selected item, and

using the generated projection of future browsing activity to predict future purchasing activity at the merchant for the selected item.

[c10] 10. The method of claim 9 wherein the projection is generated using time-series forecasting techniques.

[c11] 11. The method of claim 9 wherein the projection of future browsing activity generated is a time-series of values characterizing future browsing activity

at each of a plurality of future times, and wherein future purchasing activity is predicted by applying a time-series of conversion ratios based upon conversion history at the merchant.

[c12] 12. The method of claim 7 wherein the merchant operates a web site, and wherein a web log is produced in connection with the operation of the web site, further comprising:

extracting browsing activity data from the produced web log; and
storing the extracted data for retrieval.

[c13] 13. The method of claim 7 wherein the merchant operates a physical store, further comprising:

capturing browsing activity data within the physical store; and
storing the captured data for retrieval.

[c14] 14. The method of claim 7 wherein the merchant operates a plurality of locations at which the selected item is available for purchase, and wherein the transforming is performed to produce a projection of future purchasing activity specifying an anticipated level of purchasing activity for each of the plurality of merchant locations.

[c15] 15. The method of claim 14 wherein each of the locations operated by the merchant is a shipping center,
and wherein, for each shipping center, the anticipated level of purchasing activity is determined using browsing activity data from customers whose shipping address is associated with the shipping center.

- [c16] 16. The method of claim 14 wherein each of the locations operated by the merchant is a shipping center,
 and wherein, for each shipping center, the anticipated level of purchasing activity is determined using browsing activity data from customers whose shipping address is associated with any of the shipping centers.
- [c17] 17. The method of claim 7, further comprising using the projection of future purchasing activity to specify an operational parameter used to operate the merchant.
- [c18] 18. The method of claim 17 wherein the specifying operation parameter is inventory reorder level for the selected item.
- [c19] 19. The method of claim 17 wherein the specifying operation parameter is inventory reorder level for an item identified as a complement of the selected item.
- [c20] 20. The method of claim 17 wherein the specifying operation parameter is staffing level.
- [c21] 21. The method of claim 7 wherein the retrieved data indicates an observed level of browsing activity performed by the user at the merchant.
- [c22] 22. The method of claim 7, further comprising incorporating into the projection of future purchasing activity data indicating, during each of a plurality of past time periods, an observed level of purchasing activity performed by users with respect to the selected item.

[c23] 23. A computing system for projecting future purchasing activity for a selected item being offered for sale on a merchant's web site, comprising:

a retrieval subsystem that retrieves data indicating, during each of a plurality of past time periods, an observed level of browsing activity performed by users with respect to the selected item; and

a transformation subsystem that transforms the retrieved data into a projection of future purchasing activity at the merchant for the selected item.

[c24] 24. The computing system of claim 23 wherein the retrieval subsystem retrieves data indicating an observed level of browsing activity performed by users at the merchant's web site.

[c25] 25. The computing system of claim 23 wherein the retrieval subsystem retrieves data indicating an observed level of browsing activity performed by users at a plurality of web sites, including the merchant's web site.

[c26] 26. One or more computer memories collectively containing an item purchasing activity forecasting data structure comprising, for a selected item, for each of a series of past times, an indication of a level of item browsing activity observed to take place with respect to the selected item, such that the contents of the data structure may be used to project future purchasing activity with respect to the selected item.

[c27] 27. The computer memories of claim 26 wherein each indication is a count of the total number of times an item detail web page containing information about the selected item was requested from one or more web servers from which the item detail page is available.

[c28] 28. The computer memories of claim 26 wherein each indication is a count of the total number of item browsing events observed to take place with respect to the selected item.

[c29] 29. The computer memories of claim 26 wherein each of a plurality of different item browsing actions may be performed with respect to the selected item, and wherein each indication is a weighted score based upon the number of times each of the item browsing actions were observed to take place with respect to the selected item.

[c30] 30. The computer memories of claim 27 wherein the data structure contains indications of levels of item browsing activity observed to take place at each of the series of past times with respect to each of a plurality of items, such that the contents of the data structure may be used to project future purchasing activity with respect to any of the plurality of items.

[c31] 31. The computer memories of claim 30 wherein in the data structure is organized in such a manner that the plurality of items are ranked in descending order of their indications of levels of item browsing activity, such that the contents of the data structure may be used to determine a relative level of urgency for restocking the items of the plurality.

[c32] 32. The computer memories of claim 27 wherein the each indication for a past time contained by the data structure comprises, for each of a plurality of different item browsing action types, a count of the total number of actions of the item browsing action type observed to take place at the past time.

[c33] 33. One or more computer memories collectively containing an item purchasing activity forecast data structure comprising, for a selected item, for each of a series of future times, an indication of a level of purchasing activity

expected to take place with respect to the selected item, based at least in part upon a quantification of browsing activity previously observed with respect to the selected item.

[c34] 34. The computer memories of claim 33 wherein the data structure contains indications of levels of purchasing activity expected to take place at each of the series of future times with respect to each of a plurality of items, based at least in part upon a quantification of browsing activity previously observed with respect to the plurality of items.

[c35] 35. The computer memories of claim 33 wherein the indications contained by the data structure are also based upon a quantification of purchasing activity previously observed with respect to the selected item.

[c36] 36. One or more computer memories collectively containing a browsing action weighting data structure comprising, for each of a plurality of different types of item browsing actions, a indication of a weight to be attributed to item browsing actions of the type in projecting future demand based upon the occurrences of item browsing actions of the type.